


<b>Product Item</b>	D1503
<b>Product Info</b>	Universal OFF Line LED Driver
<b>Product Brief Introduction</b>	<p>The D1503 is a high power-factor, constant current driver IC for offline LED lamps. It can accept universal input voltage range of 90V to 270VAC. It is based on a sinusoidal buck topology and achieves a very high power factor, typically 0.95 or better.</p> <p>It supports both non-isolated and isolated designs. The D1503 has a start-up current of less than 40uA. A bias winding on the buck converter's inductor or the converter's transformer provides the VDD power to sustain the circuit operation after start up.</p> <p>The D1503 provides an adjustable switching frequency, up to 200kHz. It has cycle-by-cycle current limit. The D1503 provides an accurate internal current limit reference of 450mV.</p> <p>The D1503 provides an on-chip over-temperature protection. It shuts down the switching when the chip temperature exceeds 125 °C. The D1503 is available in SOP-8 package.</p>
<b>Product Feature</b>	<ul style="list-style-type: none"> <li>● Universal input range 90V to 270 VAC</li> <li>● Constant line regulation at wide voltage range</li> <li>● High power factor: better than 0.95</li> <li>● High efficiency: up to 90%</li> <li>● No need for any electrolytic capacitor</li> <li>● 450mV current-limit voltage</li> <li>● Natural current-limited soft start (no inrush current)</li> <li>● Fast response to over-current condition</li> <li>● Over-temperature protection</li> <li>● No-load protection, open feedback loop protection</li> <li>● Adjustable switching frequency with natural spread spectrum (up to 10dB EMI reduction)</li> <li>● Compatible with triac (SCR) dimming with conduction angle 90 to 180</li> <li>● 40uA start up current</li> <li>● Accurate and temperature-independent <math>V_{REF}</math> for stable output regulation</li> <li>● Available in SOP-8 package</li> </ul>
<b>Typical Application</b>	<ul style="list-style-type: none"> <li>● General ceiling LED lighting</li> <li>● A19, PAR30, PAR38, E27 LED light bulbs</li> <li>● T5/T8 LED light tubes</li> <li>● Outdoor spotlights</li> </ul>

<p><b>Operating Diagram</b></p>	
<p><b>Max Power</b></p>	<p>20 W</p>
<p><b>Control Method</b></p>	<p>BCM</p>
<p><b>Typical Efficiency</b></p>	<p>90% @ 12W</p>
<p><b>Dimming</b></p>	<p>Traic (SCR)</p>
<p><b>Power Mos</b></p>	<p>Ext</p>
<p><b>Linear Adjustment Rate</b></p>	<p>± 8%</p>
<p><b>Load Adjustment Rate</b></p>	<p>± 8%</p>
<p><b>Batch Consistency</b></p>	<p>± 8%</p>
<p><b>Package</b></p>	<p>SOP-8</p>
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